

# REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8709300211 DOC. DATE: 87/09/25 NOTARIZED: NO DOCKET #  
 FACIL: 50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397  
 AUTH. NAME AUTHOR AFFILIATION  
 WASHINGTON, S. L. Washington Public Power Supply System  
 POWERS, C. M. Washington Public Power Supply System  
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-026-00; on 870824, during NRC safety sys functional  
 insp, determined that table of diesel fuel versus tank  
 dipstick level for each diesel oil storage tank in error.  
 Caused by inadequate error margin. W/870925 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5  
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

## NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
	PD5 LA	1 1	PD5 PD	1 1
	SAMWORTH, R	1 1		
INTERNAL:	ACRS MICHELSON	1 1	ACRS MOELLER	2 2
	AEOD/DOA	1 1	AEOD/DSP/NAS	1 1
	AEOD/DSP/ROAB	2 2	AEOD/DSP/TPAB	1 1
	DEDRO	1 1	NRR/DEST/ADS	1 0
	NRR/DEST/CEB	1 1	NRR/DEST/ELB	1 1
	NRR/DEST/ICSB	1 1	NRR/DEST/MEB	1 1
	NRR/DEST/MTB	1 1	NRR/DEST/PSB	1 1
	NRR/DEST/RSB	1 1	NRR/DEST/SGB	1 1
	NRR/DLPQ/HFB	1 1	NRR/DLPQ/QAB	1 1
	NRR/DOEA/EAB	1 1	NRR/DREP/RAB	1 1
	NRR/DREP/RPB	2 2	NRR/DRIS/SIB	1 1
	NRR/PMAS/ILRB	1 1	REG FILE 02	1 1
	RES DEPY GI	1 1	RES TELFORD, J	1 1
	RES/DE/EIB	1 1	RGN5 FILE 01	1 1
EXTERNAL:	EG&G GROH, M	5 5	H ST LOBBY WARD	1 1
	LPDR	1 1	NRC PDR	1 1
	NSIC HARRIS, J	1 1	NSIC MAYS, G	1 1

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Washington Nuclear Plant - Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 3 9 7	PAGE (3) 1 OF 0 4
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TITLE (4) Diesel/Generator Stored Diesel Fuel Oil Less Than Technical Specification Limit Due To Inadequate Setpoint Process Control	
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EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)								
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)						
0	9	1	5	8	7	8	7	0	2	6	0	5	0	0	0		
OPERATING MODE (9) 1			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)														
POWER LEVEL (10) 0 9 8			20.402(b)			20.405(c)			50.73(a)(2)(iv)			73.71(b)					
			20.405(a)(1)(i)			50.38(c)(1)			50.73(a)(2)(v)			73.71(c)					
			20.405(a)(1)(ii)			50.38(c)(2)			50.73(a)(2)(vii)			OTHER (Specify in Abstract below and in Text, NRC Form 366A)					
			20.405(a)(1)(iii)			50.73(a)(2)(ii)			50.73(a)(2)(viii)(A)								
			20.405(a)(1)(iv)			50.73(a)(2)(iii)			50.73(a)(2)(viii)(B)								
20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(x)											

LICENSEE CONTACT FOR THIS LER (12)																	
NAME S.L. Washington, Compliance Engineer							TELEPHONE NUMBER										
							AREA CODE										
							5	0	9	3	7	7	-	2	0	8	0

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)											
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)							
<input checked="" type="checkbox"/> NO							

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On August 24, 1987 during an NRC Safety System Functional Inspection (SSFI) it was determined that the Table of Diesel Fuel (Gallons) versus Tank dipstick level for each Diesel Oil Storage Tank was in error. There are three Diesel Oil Storage Tanks at WNP-2, one associated with each Diesel/Generator Set. On September 15, 1987 using new tables based on new Generation Engineering calculations, Plant logs from July 1986 to September 1987 were reviewed and it was determined that there were four intervals during this period when the amount of fuel in a storage tank was below the Plant Technical Specification limit. These occurrences were for the Division 1 or 2 Diesel/Generator Systems only. The High Pressure Core Spray Diesel/Generator Storage Tank was never, for the review period, below its Technical Specification limit.

Corrective actions include: A Task Force is reviewing the setpoint process at WNP-2, new calculations for usable tank capacity versus dipstick level were completed, the Operation's equipment operator daily log sheets were revised with the new tank level criteria, the revised tables have been incorporated into the Plant Procedures, and the tank low alarm level setpoints will be changed.

The cause of this event was inadequate process control of Plant setpoints during the Startup of WNP-2. Secondly, the original calculations provided for an error margin but the margin proved insufficient to account for the discrepancies found during the re-calculation.

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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Washington Nuclear Plant - Unit 2	0500039787	87	026	00	02	OF 04

TEXT (If more space is required, use additional NRC Form 366A's) (17)

Abstract (cont'd.)

There are no adverse consequences to Plant Safety associated with this event because Division 1 and 2 Diesel/Generator Systems are redundant, and there was never a case found during this review where both tanks were low at the same time. Also, the worst case found resulted in a six (6) day and sixteen (16) hour capacity at maximum load versus the required seven (7) days, and two outside sources of diesel fuel are available within twenty four hours.

Plant Conditions

- a) Power Level - 98%
- b) Plant Mode - 1 - Power Operation

Event Description

On August 24, 1987 during an NRC Safety System Functional Inspection it was determined that Plant Procedure Tables of usable fuel oil in the diesel oil storage tank versus the tank dipstick level were in error. Plant Technical Specifications 3.8.1.1 "A. C. Sources - Operating" and 3.8.1.2 "A.C. Sources - Shutdown" both require a fuel oil storage system with a minimum of 53,000 gallons for DG1 and DG2 (DO-TK-1A & 1B) and 33,000 gallons for DG3 (DO-TK-2).

A review of Plant logs for one year (July 1986 to Present) determined that there were four intervals (see Table 1) when the actual amount of usable fuel oil in a Division 1 or 2 tank was below the Technical Specification limit. There were no cases found when the High Pressure Core Spray Diesel Generator fuel oil was below its Technical Specification Limit. The worst case discovered by this review was between October 6 through 17, 1986, when the oil level in the storage tank for DG1 reached 50,230 gallons. The event duration was from Plant Startup to September 1987.

The results of the errors causes the Diesel Oil Storage Tank Low Level alarm to actuate at 51,108 gallons for the DG1 and DG2 Storage Tanks, 1,892 gallons below the Technical Specification limit, and 31,700 gallons for the DG3 tank, 1,300 gallons below the Technical Specification limit.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

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Washington Nuclear Plant - Unit 2	0 5 0 0 0 3 9 1 7	8 7	- 0 2 6	- 0 0	0 3	OF	0 4

TEXT (If more space is required, use additional NRC Form 366A's) (17)

TABLE 1

List of dates when the amount of diesel oil in a storage tank was below Technical Specification limits. Technical Specification limit 53,000 gallons.

<u>Date</u>	<u>Plant Operating Mode</u>	<u>Division</u>	<u>Gallons</u>
October 6, 1986 through October 17, 1986	1	1	50,230
December 4, 1986 through December 11, 1986	1	2	52,380
January 28, 1987	1	1	51,960
March 28, 1987 through April 1, 1987	1	1	51,960

The root cause of this event was inadequate process control of setpoint calculations during the startup of WNP-2. This area was evaluated during the NRC SSFI. The specific cause for this event was an inadequate error margin in the original calculation which failed to account for the dead storage oil (oil below the transfer pump suction), volume of the structural steel internal to the tank, and the proper head shape of the tank.

Intermediate Corrective Action

New calculations for each Diesel Oil Storage Tank were completed and Plant Operations was given new values for the daily dipstick measurements that verify compliance with the Technical Specification limits.

Further Corrective Action and Evaluation

The table of usable tank capacity (gallons) versus the dipstick measure was revised and was incorporated into Plant procedures.

The low level alarm setpoint Master Data Sheet is being revised and the instruments will be recalibrated to a new trip setpoint that will alarm prior to reaching the minimum Technical Specification fuel oil limit.

A Task Force led by a Plant Engineering Manager is reviewing the setpoint process based on the findings of the NRC SSFI. It is expected that this review will result in further corrective actions which will be tracked by our response to the SSFI Report.



## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

The WNP-2 Technical Specifications (LCO 3/4.8.1.1 and LCO 3/4.8.1.2) does not have an action statement specifically related to the fuel oil requirements and requires either testing of the remaining diesels (which exacerbates the problem) or application of Technical Specification 3.0.3. The Supply System intends to prepare a license amendment request to add an action statement associated with the fuel oil requirement.

Safety Significance

The design bases for fuel storage is to provide enough fuel for each Diesel/Generator System to operate continuously for seven (7) days at post LOCA maximum load demands. The Division 1 and 2 Diesel Generators are redundant and only one unit is required to safely shutdown the Plant. No cases were found where both tanks were below the Technical Specification limit at the same time. During this event the worst case provided enough fuel for six (6) days and sixteen (16) hours of operation at maximum demand. Two outside sources of diesel fuel are available to the Plant within twenty four hours. Therefore, due to the redundancy of the Division 1 and Division 2 Diesel Generator Systems and the fact that both divisions maintained a minimum of 95% of the capacity requirement and was additionally backed by offsite fuel sources, there are no adverse safety consequences associated with this event.

Similar Events

None

EIIS InformationText ReferenceEIIS Reference

	System	Component
Diesel Generator (DG-1, DG-2)	EK	DG
High Pressure Core Spray Diesel Generator (DG-3)	EK	DG
Diesel Oil Storage Tank (DO-TK-1A, DO-TK-1B, & DO-TK-2)	DC	TK

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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P.O. Box 968 • 3000 George Washington Way • Richland, Washington 99352

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Docket No. 50-397

September 25, 1987


Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Subject: NUCLEAR PLANT NO. 2  
LICENSEE EVENT REPORT NO. 87-026

Dear Sir:

Transmitted herewith is Licensee Event Report No. 87-026 for the WNP-2 Plant. This report is submitted in response to the report requirements of 10CFR50.73 and discusses the items of reportability, corrective action taken, and action taken to preclude recurrence.

Very truly yours,

  
C.M. Powers (M/D 927M)  
WNP-2 Plant Manager

CMP:db

Enclosure:  
Licensee Event Report No. 87-026

cc: Mr. John B. Martin, NRC - Region V  
Mr. C. J. Bosted, NRC Site (M/D 901A)  
INPO Records Center - Atlanta, GA  
Ms. Dottie Sherman, ANI  
Mr. D. L. Williams, BPA (M/D 399)

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